CLAIMS

1. A di-alkyl phthalate characterised by a carbonyl number below 0.2 mg KOH/g, a light ends content of less than 1000 ppm wt, and a liquid volume resistivity (LVR) that is:
   i) greater than 0.3×10^{12} ohm.cm in the case where di-alkyl is di-2-ethyl hexyl;
   ii) greater than 0.6×10^{12} ohm.cm in the case where di-alkyl is di-isononyl; and
   iii) greater than 1.35×10^{12} ohm.cm in the case where di-alkyl is di-isodecyl.

2. The phthalate of claim 1 wherein the LVR (in units of 10^{12} ohm.cm) is
   i) greater than 0.5 or greater than 0.8 or greater than 1.1 in the case where di-alkyl is di-2-ethyl hexyl;
   ii) greater than 0.7 or greater than 1.0 or greater than 2.0 in the case where di-alkyl is di-isononyl; and
   iii) greater than 2.0 or greater than 2.5 or greater than 3.0 in the case where di-alkyl is di-isodecyl.

3. The phthalate of claim 1 or 2 wherein the carbonyl number is 0.1 mgKOH/g or less.

4. The phthalate of claim 1, 2 or 3 wherein the light ends content is below 600 ppm wt.

5. The phthalate of claim 1, 2, 3 or 4 containing intermediates, wherein the intermediates content is below 750 ppm wt.

6. The phthalate of claim 5 having a combined light ends and intermediates content below 1000 ppm wt.

7. A process for the production of a plasticiser ester comprising:
   (i) esterifying an acid or an anhydride with an alcohol containing from 6 to 13 carbon atoms, to form a crude ester;
   (ii) treating the crude ester with a base, to form a treated ester;
   (iii) filtering the treated ester to separate a liquid product;
   (iv) stripping the liquid product to form a stripped material;
   (v) treating the stripped material with an adsorbent; and
   (vi) filtering the product of step (v), optionally in the presence of a filter aid, to remove the adsorbent from the plasticiser ester.

8. The process according to claim 7 in which the base is an alkali metal salt.

9. The process according to claim 7 in which the base is sodium hydroxide or sodium carbonate.

10. The process according to claim 7, 8 or 9 in which water is removed from the treated ester before filtering step (iii).

11. The process according to claim 10 in which the water is removed by flashing or steam stripping.

12. The process according to any of claims 7 to 11 in which the acid or anhydride is an aromatic monocarboxylic acid or anhydride, or a polybasic aromatic carboxylic acid or anhydride.

13. The process according to claim 12 in which the anhydride is phthalic anhydride.

14. The process according to any of claims 7 to 13 in which the alcohol is a C_9 to C_{11} alcohol.

15. The process according to claim 14 in which the alcohol is a C_{10} alcohol or a C_{11} alcohol.

16. The process according to any of claims 7 to 15 in which the combined amount of adsorbent and the filter aid employed is from 0.01 to 5 wt%, based on the weight of the plasticiser ester.

17. The process according to claim 16 in which the combined amount is from 0.02 to 2 wt %.

18. The process according to claim 17 in which the combined amount is from 0.03 to 1 wt %.

19. The process according to claim 18 in which the combined amount is from 0.04 to 0.3 wt %.

20. The process according to any of claims 7 to 19 in which steps (v) and (vi) are enabled by employing a mixture of filter aid and adsorbent in step (v).

21. The process according to claim 20 in which the mixture contains from 90 to 30 parts by weight of the filter aid and from 10 to 70 parts by weight of the adsorbent.

22. The process according to claim 21 in which the mixture contains from 60 to 40 parts by weight of the filter aid and from 40 to 60 parts by weight of the adsorbent.

23. The process according to any of claims 7 to 22 in which the adsorbent is activated carbon.

24. The process according to any of claims 7 to 23 in which the filter aid is a clay.

25. The process according to any of claims 7 to 22 in which the filter aid is present and is clay, and the adsorbent is activated carbon.

26. The process according to any of claims 7 to 20 in which the adsorbent also acts as the filter aid.

27. The process according to any of claims 7 to 26 in which the treatment step (v) is performed at a temperature in the range of 20 to 180°C, preferably 50 to 150°C, more preferably 80 to 120°C and in particular 100 to 110°C.

28. A process or use according to claim 27 in which the treatment step (v) is performed at a temperature in the range of 80 to 120°C and the plasticiser is a C_8 to C_{13} dialkyl phthalate.

29. A method for purifying a plasticiser ester which comprises forming a mixture of the ester and an adsorbent having a pH in the range of 6 to 11, and subsequently filtering the mixture.

30. The method according to claim 29 wherein the adsorbent comprises activated carbon and wherein the mixture also comprises a filter aid having a pH in the range of 6 to 11.

31. The use of a mixture of activated carbon and a filter aid in the purification by filtration of a plasticiser ester, said activated carbon and filter aid each having a pH in the range 6 to 11.

32. The method or use according to any of claims 29 to 31 in which the pH of the adsorbent and/or the filter aid is in the range 6 to 9.

33. The method or use according to any of claims 29 to 32 in which, prior to purification according to such method or use, the plasticiser ester is subjected to stripping.

34. A polyvinyl chloride composition comprising polyvinyl chloride plasticised with a phthalate according to any of claims 1 to 6 or a plasticiser ester produced by the process according to any of claims 7 to 28 or purified by the method according to any of claims 29 to 33.

35. The use of a polyvinyl chloride composition according to claim 34 for wire and cable insulation.